Claims

1. A dental flosser attachment for a toothbrush driver in which dental floss from a spool on or in the attachment is fed via a floss quick release locking mechanism to a floss receiving end of one of a pair of prongs extending from the body of the attachment to a floss receiving end of the other prong and back to the quick release mechanism such that the free end of the floss may be pulled to tension the floss between the prongs, whereafter the quick release mechanism is releasably locked to retain the tension of the floss therebetween, including across the prongs, the quick release mechanism being mounted for reciprocable rotation relative to the prongs to thereby cause the floss to oscillate therebetween when the flosser attachment is activated by the toothbrush driver.

2. A dental flosser attachment according to claim 1 further characterised in that the dental flosser attachment is driven by a motor via a drive train in which circular motion is translated into oscillating or reciprocating movement.

3. A dental flosser attachment according to claim 2 further characterised in that the drive train includes a bell-crank mechanism or a crown gear and associated spur gear, to which crown gear is eccentrically mounted a drive pin attached to one end of a drive link, the other end of which is attached to the quick release mechanism and/or a platform on which a quick release mechanism is mounted.

4. A dental flosser attachment according to any preceding claim further characterised in that the quick release mechanism comprises a pair of fixed clamp jaws, against each of which a pair of slideable clamp jaws are engageable to trap respective parts of a length of floss therebetween, the intermediate length

of floss being at least partially supported by the prongs of the flosser attachment to enable flossing by a user of the combination flosser attachment and toothbrush driver.

5. A dental flosser attachment according to claim 4 further characterised in that the slideably mounted clamp jaws have cam surfaces co-operable with projections on or in a rotatable knob adjacent thereto such that upon partial rotation of the knob in one direction the slideable jaws are forced apart so as to engage with the fixed clamp jaws or floss therebetween.

6. A dental flosser attachment according to claim 5 further characterised in that the slideable clamp jaws are biassed to their open position by means of a spring arm.

7. A dental flosser attachment according to claim 6 further characterised in that the spring arm comprises two springs, one for each slideable clamp jaw.

8. A dental flosser attachment according to claim 6 or claim 7 further characterised in that the two springs are integrally formed with a centrally disposed collar relative to the rotational axis of the knob.

9. A dental flosser attachment according to any one of claims 1 to 3 further characterised in that the slideably mounted clamp jaws are forced to their closure position against the fixed clamp jaws by means of an over-centre cam locking arrangement including a rotatable drive plate having diagonally opposite cam surfaces which engage innermost surfaces of the slideable clamp jaws such that upon rotation of the drive shaft in one direction the jaws are forced apart to engage with the fixed clamp jaws or floss therebetween.

10. A dental flosser attachment according to claim 9 further characterised in

that the drive links are attached to the drive plate to provide an over-centre cam locking arrangement whereby the slideable clamp jaws are retained in their locked position when the drive plate is rotated slightly beyond the point by which the slideable clamp jaws are in their initially locked positions, such that upon rotation of the drive plate in the opposite direction the slideable jaws become unlocked and can be returned to their original open position.

11. A dental flosser attachment according to any one of claims 1 to 3 further characterised in that the quick release mechanism is in the form of a slotted disc in which a pair of symmetrically disposed spiral slots act as cam surfaces co-operable with projections, such as drive pins, attached to the slideable clamp jaws, either directly or indirectly, such that upon rotation of the slotted disc the slideable jaws are forced to move from an open to a closed position relative to the fixed jaws and vice versa.

12. An electrically powered flosser comprising a body portion, a head portion from which extend a pair of prongs for receiving floss therebetween, the head portion including a quick release mechanism for releasably locking a length of floss between the prongs of the flosser, the quick release mechanism being mounted for reciprocable movement such that floss between the prongs oscillates on movement of the quick release mechanism when locked, the quick release mechanism being drivingly connected to a motor in the body portion.